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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/751,109	01/05/2004	Shinya Miyaji	108421-00087	1359
4372 7590 02/12/2007 ARENT FOX PLLC 1050 CONNECTICUT AVENUE, N.W. SUITE 400 WASHINGTON, DC 20036			EXAMINER SPEER, TIMOTHY M	
			ART UNIT	PAPER NUMBER
			1775	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		02/12/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/751,109

Applicant(s)

MIYAJI ET AL.

Examiner

Timothy M. Speer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) 6 and 7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 09/18/06
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102/103***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, and 3 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Nakajima (USPN 6,452,775), Krishnaraj (USPN 6,175,485) or Collins (USPN 5,350,479).

Each of the applied references teaches an article comprising an aluminum oxide layer formed on a substrate (see Nakajima at col. 3, lines 37-59 and claim 4; Krishnaraj at col. 1, lines 60-62; and Collins at col. 6, lines 63-68, for instance). Regarding the presently claimed ratio of oxygen to metal, it is the Examiner's position that this characteristic is inherent in the articles of the applied prior art, since the articles are made by the same process and disclosed in the subject specification and recited in the present claims, i.e., plasma spraying. It has been held that where the claimed invention and prior art products are identical or substantially identical in structure or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness will be considered to have been established over functional

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limitations that stem from the claimed structure. *In re Best*, 195 USPQ 430, 433 (CCPA 1977), *In re Spada*, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). The prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. *In re Best*, 195 USPQ 430, 433.

4. Claims 1, 2, and 4 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Amano (USPN 4,774,150), Hasz (USPN 5,773,141) or Yasuda (USPN 5,955,182).

Each of the applied references teaches an article including a layer comprising an oxide of magnesium formed on a substrate (see Amano at col. 1, lines 15-18; Hasz at col. 5, lines 43-47; and Yasuda at col. 16, lines 44-47, for example). Regarding the presently claimed ratio of oxygen to metal, it is the Examiner's position that this characteristic is inherent in the articles of the applied prior art, since the articles are made by the same process and disclosed in the subject specification and recited in the present claims, i.e., plasma spraying. It has been held that where the claimed invention and prior art products are identical or substantially identical in structure or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness will be considered to have been established over functional limitations that stem from the claimed structure. *In re Best*, 195 USPQ 430, 433 (CCPA 1977), *In re Spada*, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). The prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. *In re Best*, 195 USPQ 430, 433.

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5. Claims 1, 2, and 5 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Amano (USPN 4,774,150), Sahoo (USPN 5,993,976) or Goedjen (USPN 6,306,515).

Each of the applied references teach an article including a layer comprising an oxide of yttrium formed on a substrate (see Amano at col. 1, lines 15-18; Sahoo at col. 10, lines 56-64; and Goedjen at col. 2, lines 52-55, for instance). Regarding the presently claimed ratio of oxygen to metal, it is the Examiner's position that this characteristic is inherent in the articles of the applied prior art, since the articles are made by the same process and disclosed in the subject specification and recited in the present claims, i.e., plasma spraying. It has been held that where the claimed invention and prior art products are identical or substantially identical in structure or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness will be considered to have been established over functional limitations that stem from the claimed structure. *In re Best*, 195 USPQ 430, 433 (CCPA 1977), *In re Spada*, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). The prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. *In re Best*, 195 USPQ 430, 433.

#### ***Response to Arguments***

6. Applicant's arguments filed 11/22/06 have been fully considered but they are not persuasive. Applicant argues that the applied prior art fail to teach that the composition has an oxygen to metal (or semiconductor) ratio of not less than 80% of the stoichiometric ratio. This argument has been considered, but is not found to be persuasive.

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7. As noted in the rejections, the applied references each teach metal oxide coatings containing the presently claimed metal oxides, e.g., aluminum oxide, magnesium oxide, yttrium oxide, etc. Moreover, the prior art references teaches that the coatings are made by the same process as recited in the present claims, i.e., plasma spraying. Accordingly, the Examiner concluded that the coatings would inherently exhibit the claimed constituent proportions relative to the stoichiometric composition. Therefore, the rejection was made alternatively under either section 102 or 103, since it has been held that where the claimed invention and prior art products are identical or substantially identical in structure or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness will be considered to have been established over functional limitations that stem from the claimed structure. *In re Best*, 195 USPQ 430, 433 (CCPA 1977), *In re Spada*, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Thus, the Examiner has met the burden of establishing either a prima case of anticipation or obviousness.

8. The prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. *In re Best*, 195 USPQ 430, 433. In the present case, applicant has failed to adduce such evidence and, therefore, has failed to rebut the prima facie case. Accordingly, applicant's arguments are not persuasive.

9. Moreover, the Examiner notes that the prior art references each teach metal oxide coatings, e.g., aluminum oxide, magnesium oxide, yttrium oxide, etc., with no indication that the coatings deviate significantly from stoichiometric compositions. This, coupled with the fact that the coatings are made from the same materials and methods as presently claimed, further bolsters the finding of a prima facie case of either anticipation or obviousness.

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10. The double patenting rejection made in the previous Office Action is withdrawn in view of the timely filed terminal disclaimer dated 11/22/06.

***Conclusion***

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy M. Speer whose telephone number is 571-272-8385. The examiner can normally be reached on M-Th, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on 571-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Timothy M. Speer



**JOHN J. ZIMMERMAN**  
**PRIMARY EXAMINER**